THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. CI. — THURSDAY, AUGUST 28, 1879. — NO. 9.

LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. XVI.

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University.

Infantile Paralysis. — GENTLEMEN, — Our first case is one of great interest, because it is unlike anything we have had before this winter. The patient is a little girl, six years of age, who ought to have been examined without ether, in order that we might see how much voluntary power she possesses. But her terror was so extreme that we were obliged to etherize her. At one year of age the child had the measles, and subsequently lost power in the right leg. Since that time a remarkable difference between the two legs has been growing more and more apparent. This dissimilarity consists of a difference in size and in length. The left femur is nearly an inch longer than the right; the left tibia is much longer than the right, as you may see when the inner malleoli of the two legs are placed side by side. While they are in this position you also see that one patella is considerably higher than the other. One tibia is not only much longer than the other, but the whole of the left leg is much larger than the right. Hence the right leg is in a state of non-development. There is really a difference of years between these two limbs. In the right is a lack of size, strength, and temperature, with a very lax ankle-joint. Before she came here the question was raised as to whether she had hip disease. I can see no indications of it. The folds of the groin are alike; the relative positions of the two spines of the ilium are alike. I should not be surprised if one side of the nates were undeveloped, and hence it may simulate one of the symptoms of hip disease. Turning the child over on her face, I find it is so, namely, the gluteal fold of the affected side has become somewhat lessened, and the natis of this side is flattened. This condition is entirely due to the wasting or lack of development of the whole limb. The hip-joint is perfectly movable, and motion causes no pain. We can therefore safely say that there is no articular disease. The right leg is one inch shorter than the left, and much weaker. In walking the child limps, because of this shortening. The limb has had

a certain amount of artificial support, and must always have it; otherwise talipes valgus would set in, the scaphoid would be pushed out, and the child would begin to walk on the inside of the foot.

Is there any spinal disease? I think not, because if there were both legs would be affected, and there would probably be a spinal curvature as well. On examination I find the spine is perfectly normal, and absolutely free from all signs of Pott's disease. While I was examining the child, previous to the etherization, she threw herself about so violently, from fear of me, and bent the spine this way and that so rapidly and with such variety of movement, that I knew there could be no spinal affection. No operation is called for here, for the condition is not due to contracted tendons, but is purely a lack of power from deficient growth. Nothing can be accomplished by cutting tendons. Aid can be rendered only by some form of support. The treatment, then resolves itself into giving assistance to the ankle. Without this the child would gradually become more helpless, from an unwillingness to use the weak limb. Massage, rubbing, and electricity will also be of use here. Massage will improve the circulation, and give the limb passive exercise, which, being administered by another person, will cost the patient no fatigue. Electricity, too, will stimulate and strengthen the general condition of the limb. The trouble having originated in measles, when the child was one year of age, the cause, of course, has long since disappeared. The question now arises, Will this limb ever be as sound as, and symmetrical with, the other. Probably not, but we can give it more strength. We have also to decide as to whether the limb be growing. This we cannot settle now, but only by watching it for a year. At maturity this leg may be four or five inches shorter than the other.

Nasal Polypi. — This patient has just applied for relief, and the operation which he needs can be done without ether. His age is forty-six years. He complains of a stoppage of both nostrils, especially the right, upon looking into which I see a whitish body, which undoubtedly is a polypus; and the diagnosis is confirmed by the fact that the patient had a similar body removed nine years ago. I am in doubt as to whether there be a polypus in the left nostril. It is probable that the nasal septum is pushed over into the left nostril by the polypus in the right. We cannot examine it properly until after it has been extracted. This is accomplished by means of forceps of various shapes. The instrument grasps the polyp, which is removed by being twisted off, a bit of the turbinated bone from which it grows generally coming away with the tumor. The only embarrassment attending the operation is a smart bleeding of the nose. No other trouble is entailed.

In this case the polyp comes away in fragments, and finally a piece of bone, having a smaller polyp attached, shows how these growths start.

This operation is often done in the doctor's office, but, personally, I do not like to do it at home, because after the operation patients sometimes become very weak, and so must be left for a long time in quiet. It is much better to operate at the patient's own house.

Solutions of quinine or carbolic acid and of astringents are said to prevent a recurrence of these growths. Something may be accomplished by such applications, but unless we remove the shelf of turbinated bone from which they grow, they will be certain to reappear. The right nostril now being clear, I examine the left, and find no polypi.

Growth in the Antrum. — Our next patient has a very unfortunate history. In her childhood began a lateral curvature of the spine, which she thinks was due to neglect in applying the proper support. Her spine and thorax are much deformed. There is no disease of either heart or lungs, although the former is displaced. But the patient is far from strong. Fourteen months ago she noticed in her right cheek a growth, which protrudes from the antrum, and has absorbed the external wall and palatal process over a space oval in shape. The orbit, however, has not been invaded, and there is no evident infiltration. Such growths usually infiltrate into the cheeks and palate, the whole becoming œdematous and a confused mass of disease. Here the entire growth seems to be confined to the antrum, and, consequently, I am the more hopeful that it is not malignant, and think I shall be able to remove the disease without taking out the orbital plate or roof of the antrum. But if it prove to be worse than I now believe, I shall have to excise the whole of the superior maxillary bone.

Contrary to my usual custom, I prefer to operate without first opening the trachea, because of the extremely delicate condition of the patient's lungs. My fear would be lest the tracheotomy result in a pneumonia. I shall therefore do the operation in the old way, namely, in the upright posture, and shall make Fergusson's incision from the inner angle of the eye, along the ala of the nose, and through the median line of the upper lip, which will enable us to turn back the cheek. The orbit, as you see, has not been invaded; the eye is not displaced, nor is the orbital process pushed upward. There is considerable venous hæmorrhage, which must be arrested before we go any further, for the patient cannot afford to lose blood. Preliminary incisions always cause the most bleeding, and occupy the greatest length of time. I have reason to be glad that I did not remove the roof of the antrum, for it is sound. Here I show you the wall of the antrum, which I have sawn off below the orbit, and taken away with the palatal process. The morbid growth took its rise from this portion of the bone. The soft portion, which was about as large as an English walnut, has broken into fragments. I now mop out the cavity with a solution of the perchloride of iron in order to arrest hæmorrhage. The subsequent deformity here

will be small, because I have left the malar bone and the orbital process. Indeed, now that the incision is closed, you may see that there is really less deformity than there was before the tumor was removed. The operation has involved the excision of about one half of the antrum.

Talipes Equinus, with Contracted Knee and Hip. — Our next patient, a girl of fifteen, was sent to us from the country. It seems that when she was born it was by the breech, and at the time it was supposed she had received some injury about the hip, which was treated as a congenital dislocation of the hip-joint. She has been four days in the hospital. I am about to do an operation to cure a deformity, the nature of which is very apparent, namely, *talipes equinus*, which has been caused by a contraction of the tendo-Achillis. The foot is being gradually drawn in, and the patient is using it as a bird does its claw. You see the scars which already indicate this abnormal position. There is no anchylosis of the ankle, but the leg is poorly nourished, and is probably weakened by a partial paralysis of the extensor muscles. Meanwhile, you may see, higher up the limb, other contractions, which have caused shortening at the knee, together with a considerable inversion of the hip. How far the latter will give way under the effects of ether I do not yet know. The resisting tendons in the ham need not be cut, but may be treated by an apparatus which, by making a fulcrum of the knee, may be made to act on the foot so as to flex it on the leg and also straighten the whole limb. Is the hip dislocated? The leg is capable of rotation and pretty free motion. The adductor and gracilis muscles stand out in strong tension, and I find some adhesions which are due to a lack of use of the leg. If the femur be dislocated in this position of inversion and shortening, the head of the bone will be found on the dorsum of the ilium. But as to the location of the head of the femur, that can be determined by Nélaton's test, namely, by a line drawn from the anterior superior spine of the ilium to the tuberosity of the ischium. This line should pass just over or above the great trochanter. I applied this test day before yesterday, and the trochanters then appeared to be symmetrical. As I now repeat the test you see that on the affected side the line passes directly above the head of the trochanter. On the sound side this tuberosity actually seems to be a trifle higher than on the other side. Consequently, the head of the bone cannot be out of the socket and on the dorsum. This may be one of those cases in which some injury at birth has resulted in inversion of the hip by contraction of the muscles, and in talipes equinus. What I propose to do is to cut the tendo-Achillis and try to straighten the limb, with the hope that all the deformity will disappear. It is very probable that we can convert this limb into a useful member. Some of the muscles are paralyzed, some spasmodically contracted, and hence the deformity. My own conviction is that this condition was ante-natal, and that it may

have been increased by pulling and other manipulation at the time of birth. Cutting the tendo-Achillis is done by the subcutaneous division of the tendon, without any subsequent suppuration. This was performed years before the Lister method was known. The discovery was made by John Hunter that wounds which were protected from the air by a skin covering would not suppurate. The pointed tenotomy knife is used to make a slight subcutaneous incision near the tendon. Into this opening I introduce a blunt-pointed tenotome, and cut straight downward through the tendon. This can be done with comparative safety, for there is below the tendon a large space filled with areolar and adipose tissue, which protect the deep muscles and vessels. In doing this operation the surgeon requires an assistant, who at first relaxes the tendon by extending the foot, so that the cutaneous incision can be easily made. After the blunt knife is introduced the foot is strongly flexed; the tendon is thus made tense, and the knife goes easily through. We then squeeze out any air which may have entered, press upon the vein which is often divided here, fill up the hollow with a mass of charpie, apply a compress, and fasten down by means of adhesive plaster.

The question next arises, When shall we apply the shoe to bring down the heel?

Mr. Syme applied apparatus at once after tenotomy. Others, and I am among them, prefer to wait three to four days, in order to avoid the risk of venous hæmorrhage and a thrombus by pulling apart the divided veins.

Finally, I shall use, for a week or two, extension to the leg and thigh, and subsequently advise passive motion and faradization of the weaker muscles.

Carbuncle. — The last patient I have to show you is sixty years of age, and has an enormous swelling on the back of his neck, extending from ear to ear and from the occiput to the shoulders. The edges are hard, œdematous, and dusky red. There are two central portions, which are of a purple color, and are riddled with minute openings, from which shreds and pus are exuding. The neck is also much thickened. He says the trouble has existed two weeks, but it must have been longer. The swelling is a carbuncle, and is one of unusual dimensions.

I propose to lay it open to the bottom by a crucial incision. This treatment prevents the extension of the carbuncle, and favors the discharge of the sloughs and pus. The danger of this treatment is from hæmorrhage, especially in a weak person. To check bleeding I shall pack the cuts with oiled rag and small sponges dipped in perchloride of iron.

The incisions which I have just made measure eleven inches and a half by six and a half.

The compression with sponges and styptics has checked all the bleed-

ing. The dressing will be changed in twenty-four hours, and a charcoal and flaxseed meal poultice applied. Meanwhile, it is of great importance that the patient's strength should be sustained with food, stimulants, and tonics.

The other methods of treating carbuncle are: (1) without incisions, leaving the sloughs to loosen of themselves; (2) making subcutaneous incisions with a curved, sharp-pointed bistoury, and coring the centre of the swelling; (3) treating it with strong caustics. Experience has convinced me that in the majority of cases free crucial incisions succeed best.

THE EVIDENCE OF STILL-BIRTH.[1]

BY MEDICAL EXAMINER S. W. ABBOTT, M. D.

I HAVE introduced these observations to show that desiccation *may* take place apart from the living body. The presence of the living body hastens desiccation by its high temperature. These observations do not affect the question of still or living birth so much as the questions, How long did this child live? and, How long has it been dead?

Before making the internal examination, the condition of the inferior femoral epiphysis should be noted, the knee-joint being opened, the epiphysis exposed, and thin transverse slices made through the epiphysis until the widest part of the point of ossification is reached, provided such a point be found.

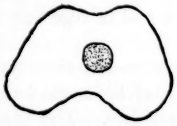


FIG. 1. A transverse section of inferior epiphysis of left femur at maturity.

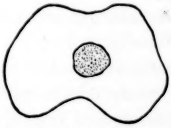


FIG. 2. Section of inferior epiphysis of left femur at age of two weeks.[2]

Casper lays down the following rule: "An osseous nucleus of three Rhenish lines (about six millimetres) in diameter permits the deduction that the child has lived after its birth." But few exceptions to this rule are likely to arise, and any that may occur may be tested by the hydrostatic test. The reverse of this rule, however, does not hold good, namely, that an osseous nucleus of less than six millimetres in diameter does not prove that the child was still-born. Previous to the thirty-seventh week of pregnancy the nucleus is not present.

This test, first proposed by Beclard in 1819, is now well established, and should always be taken, especially in doubtful cases. In addition to

[1] Continued from page 259.

[2] See Case 21, Records of Corresponding Secretary.

this, I will allude briefly to another test lately proposed by Dr. Wreden, of St. Petersburg, and verified by Dr. Ogston, of Scotland, by dissections of fifteen infants. They state that the middle ear is filled with a gelatinous substance up to the time of birth, this substance disappearing and giving place to air shortly after birth, but not in less than twelve hours. Hence they infer that air in the tympanic cavity is a sign of live birth.

If, upon the preceding inspection of the body, the medical examiner shall determine that it is not that of a viable infant, it will not be necessary to proceed farther.

In examining the internal organs, in order to come to a decision in regard to the question of living or still birth, we may conveniently group them as follows: the respiratory organs, the circulatory organs, the abdominal organs.

The Prussian criminal code, in its regulations for the conducting of autopsies upon new-born children, directs that the abdomen shall be laid open before any other cavities.[1] This gives an opportunity to examine the *diaphragm*, which in infants who have never breathed will be found highly arched (as high as the fourth intercostal space). In infants which have breathed it will not be found above the fifth intercostal space. Deviations from this rule are rare, and hence its value as a diagnostic sign. It should, however, be stated that transitory respiration may modify its value, and the diaphragm may occasionally be forced upward or downward by the accumulation of gas in the abdomen or the thorax.

The *thorax.* The external measurements of the thorax once ordered by the Prussian code are no longer required. These measurements were suggested by the observations of Daniel, who proposed them as a test, but the more careful observations of Casper and Elsässer show that the *vaulting of the thorax is of not the slightest diagnostic value.*

The *lungs:* their *situation.* This should be especially noted. If there has been no respiration, they will occupy the upper and posterior part of the pleural cavity, covering but little of the pericardium or diaphragm. If respiration has been full and free in a mature and healthy child, the lungs will be found to fill the pleural cavities, and cover the pericardium in proportion to the vigor and continuance of respiration.

Shape. Lungs which have not respired have sharp edges, while the edges of those which have respired are full and rounded, the gradations in shape depending on the freedom of respiration.

Volume. Before birth the lungs are comparatively small, and their increase in volume depends on the completeness and continuance of respiration.

I do not find any data relating to the absolute or relative volume of the lungs of new-born children as proposed by Daniel. Here, then, is an open field also for investigation, and I would urge that medical ex-

[1] Casper, vol. i. page 92.

aminers make observations on every case of the newly-born, noting the volume of the lungs as determined by displacement of water, and comparing the result with some other measurement, as the length or weight of the child, or, more correctly, its volume. Possibly some definite *relative* standard may thus be obtained. The establishment of an absolute standard, either for the still-born or the living, can hardly be attainable, since it is not reasonable that the lungs of a mature infant, weighing three kilograms, should displace as much water as those of an infant weighing twice as much, under like circumstances.

Color. The color of a lung which has not respired is variously stated by different observers. Beck states it correctly when he says it is brownish-red, resembling the color of an adult liver, but incorrectly when he compares it with the color of the thymus gland. My own dissections find it brownish-red, a little redder than adult liver, not so dark as the fœtal liver, and much darker than the thymus. Gray, in his anatomy, gives the color of the thymus as pinkish-gray. Billard is more correct than Devergie when he states the color of the fœtal lung as exceedingly various, the latter attributing a uniform color to all fœtal lungs. Casper gives the color in general as reddish-brown liver color, with a brighter red at the margins. He also gives the color of infant lungs which have respired as of a dark bluish-red ground color, with bright red circumscribed insular patches, while just as often the bright cinnabar-red forms the ground color, and the dark bluish-red the insular patches. He deduces the following rule: "*It is consistent with experience that every insular marbling of the lungs excludes the idea of a fœtal condition,*" and entitles us *to assume as certain the fact of the child having lived after its birth.* The hydrostatic test should be resorted to as supplementary proof.

Two causes may modify the color of the lungs of new-born infants: pulmonary hyperæmia and artificial inflation. If the former have been the cause of death, the lungs will be found to have a dark red color, with bright red patches, bearing a deceptive resemblance to fœtal lungs.

In the latter case, if artificial inflation be successfully performed, the lungs will become spongy and assume a bright crab-red color, which is uniformly extended through their tissue without insular marblings.

Lungs advanced in putrefaction, and also those of children who have died from hæmorrhage, cannot be confounded with fœtal lungs.

If the lungs of a new-born child be inflated by blowing through its mouth, an imperfect expansion may sometimes be produced, which in color will resemble that of perfect respiration; but the change in color only takes place in portions of the lung. Hence we may more easily distinguish between *perfect* respiration and artificial inflation than between *imperfect* respiration and artificial inflation.

The bright color of the fully inflated lung, when artificially done, is

not due to the accession of blood into its tissue so much as to the change in refractive power, due to the expansion and thinning of its cell walls, — a change such as may be seen during the inflation of a child's india-rubber balloon.

The action of the *air outside of the lung*, when admitted into the thorax at an autopsy, may change the color to a brighter hue. Hence the color of the lungs should be the first point to be noted in opening the thorax.

In this connection it may not be unworthy of observation that freedom from color-blindness is a matter of as great importance to a medical examiner as to a railway or marine official. It is chiefly on account of the necessity for a due regard to color in pathological appearances that the Prussian code forbids an autopsy by artificial light,[1] and although we are not governed by rigid rules we should doubtless profit by adopting a similar precept.

Consistence. Before respiration the lungs are firm and dense, like the liver, or nearly so. After respiration they feel soft and spongy, and are crepitant. In imperfect respiration, or even in artificial inflation, some parts may be firm and dense, others soft and crepitant.

Suffocatory hyperæmia and the results of *pneumonia* may modify this consistence, the lungs being dark in color, compact in tissue, not crepitant, more yielding to pressure than fœtal lungs, and generally capable of floating in water.

Casper rejects the use of the word atalectasis as unscientific, saying, "The opinion which would elevate this atalectasis into a peculiar disease of the new-born child cannot for a moment be justified." He says also, "I am sure practical men will agree with me that the so-called atalectasis is a mere word, without any real significance" (being employed to designate two conditions, — a fœtal and a diseased, a physiological and a pathological, condition).

Weight. Nearly one hundred years since, Ploucquet proposed that the absolute and the relative weight of the lungs should be taken as a test of live or still birth, supporting his proposition by observations on three children. It seems remarkable that an observer making any pretense to scientific attainments should have attempted to deduce a theory from such a handful of facts, and still more remarkable that an error so gross should have held its ground through nearly a century of treatises and text-books on forensic medicine.[2]

I think the careful observer will agree with Casper in his conclusions from the examination of eighty-nine cases of lungs of new-born infants, and from those of Schmitt, Devergie, Elsässer, and Samson in as many

[1] Prussian Regulations for Medico-Legal Examinations, General Directions, § 6. Scotch Regulations for Medical Inspectors. General Duties, § 8.

[2] Beck, vol. i., eleventh edition, pages 535, 536. "If the weight of the lungs be 1000 grains and upward, and if their weight compared with that of the body be as 1:40."

more, that "*Ploucquet's test ought to be at once and forever struck out from the list of means employed to prove that respiration has existed.*" The criticism of this foremost of forensic physicians is a just rebuke to all superficial modes of observation.

We come now to a consideration of the hydrostatic test, or docimasia pulmonalis, a portion of our subject which has for many years been a battle-ground in forensic medicine.

A lung containing air is specifically lighter than water. A fœtal lung is specifically heavier. Therefore, that one must float and the other sink in water cannot be disputed. But it has been denied that their floating is due to their having been filled with air, or that their sinking proves their fœtal condition.

Objections to the test have been made as follows: —

First, that the lungs of a still-born child may float in water from the following causes: —

(I.) Artificial inflation.

(II.) Spontaneous emphysema.

(III.) Gaseous products of putrefaction.

(I.) *Artificial inflation.* I have already alluded to this subject under that of color, an artificially inflated lung being of a bright crab-red, without a trace of mottling. Elsässer's experiments confirm the statement that the stomach and intestines are often inflated in attempts at artificial inflation. The only mode of artificial inflation which would be likely to come to the official notice of the medical examiner is that of mouth to mouth, and that method is the least likely to succeed, although it is occasionally successful so far as simple partial inflation is concerned, without resuscitation.

Lungs which have respired contain more blood, and hence are generally darker in hue than artificially inflated lungs. The latter have air forced into their tissue without blood, and this sometimes so forcibly as to rupture the air cells and produce a condition known as *hyperœria.* They may be distinguished from lungs which have respired by incising into their substance. If they have not respired they will not give vent to bloody froth under pressure. Hence Casper's conclusion that "*when we find a sound of crepitation without escape of bloody froth on incision, laceration of pulmonary cells with hyperœria, bright cinnabar-red color without marbling, and perhaps air in the stomach and intestines, we may with certainty conclude that the lungs have been artificially inflated.*"

In this connection I beg leave to introduce two statements which have some medico-legal significance. In a published lecture by the late esteemed Dr. Buckingham, he says, in regard to the resuscitation of asphyxiated infants, "Apply your mouth to that of the child, and try to inflate the lungs; *you need not fear that you will blow too hard.*"[1]

[1] Boston Medical and Surgical Journal, 1875, page 188.

On the other hand, in the writings of Eberle I find the following incident related with remarkable honesty and candor: "A few years ago I attended a lady in a tedious and rather difficult labor. The child was still-born, but I nevertheless made some effort at resuscitation. I inflated the lungs in the usual way. The child, however, did not recover. A singular swelling just above the middle of the left clavicle induced me to examine it with the scalpel. The tumor extended into the thorax, in following which I opened the chest. On raising the sternum I found the superior portion of the left lung in a complete state of emphysema, and a good deal of air diffused under the anterior and lateral surface of the pulmonary pleura. With the exception of the inferior portions both lungs were crepitous, and appeared to have been well inflated. That the emphysema was the result of rupture of air cells, caused by the forcible inflation, and not of putrefactive decomposition, I could not doubt, for the child's motions were distinctly felt, both by the mother and myself, up to within two hours of the termination of labor."

(*To be concluded.*)

TOAD-STOOL POISONING.

BY JULIUS A. PALMER, JR., ESQ.

For several years I have devoted my leisure hours to the study of edible and poisonous fungi. I am in debt to members of the medical profession for valuable aid, as well as for reports of cases occurring in their practice. The following example of the operation of the poisonous alkaloid known as *amanitine* may interest your readers. It was not originally intended for publication, but is sent as noted in a book kept by the writer for the record of such cases.

On Tuesday, September 18, 1878, a gentleman called at my office and introduced himself as Mr. W., of Chelsea. After a little conversation, he said that he had been poisoned by toad-stools, became quite faint, and then stretched himself on my sofa. His face was very pale, almost a livid gray; its peculiar ashen shade was noticed by my wife from the opposite end of the hall. His story was that on Sunday evening he picked a quantity of white puff-balls, and also *one* other mushroom. This was a white-gilled, yellowish-topped specimen. The top had warts or scurf on it, and the stem a bulbous base, which latter he cut off, and cooked the remainder. He stewed this and the puff-balls in milk, with the usual seasoning. There was no burning or strange taste to the mushroom, either raw or after cooking. The stew was eaten by a family of five persons, no two of whom were affected exactly alike. The youngest, a boy of eight years, took about a dozen tastes on Sunday night, and ate about the same as the father on Monday morning.

Mon ay evening, twenty-four hours from first dose, his bowels were active ; otherwise no ill effects were felt. The stew acted simply as a generous but mild cathartic.

A daughter, a girl of eleven years, tasted a little on Sunday, and ate her portion for Monday's breakfast. She experienced during the forenoon a slight but very peculiar headache ; also some diarrhœa, and no other symptoms.

Another daughter, a girl of thirteen years, tasted it on Sunday night, and ate about the average on Monday. From nine to three, Monday, she had a peculiar, throbbing, severe headache ; no other sickness, no nausea, and no diarrhœa.

The mother scarcely tasted any on Sunday, but ate plentifully for breakfast on Monday. The milk left in which the fungus had been stewed, say two gills to a pint, Mrs. W. drank. In less than an hour it operated as a Seidlitz powder, producing the most violent diarrhœa, and (she says) seemed to pass right through her. She had a bad-feeling head for five hours, — not exactly a headache. Wednesday, a little of the same feeling in her head. Otherwise no ill effects.

Mr. W. ate a piece of the stem *raw* on Sunday night, and did not eat quite so much stew as the rest of the family on Monday morning. He felt nothing from the poison until Tuesday morning at one o'clock, or the night prior to his call on me, — say thirty hours after the first dose, seventeen hours after the full meal.

He was taken with colics and violent purging, and went to stool some four or five times in quick succession. When he saw me he was feeling weak, nauseated, with no appetite, and was very pallid. He had occasional pains which (from his description) I thought similar to those of bilious colic. I asked him if either whisky or olive oil was offensive to him when in health. On his answering " No," I gave him a tablespoonful of each mixed in one wineglass, which he took. Before he left the office he said he was feeling much better. He called again on Thursday, and said that he was at that time all right. Tuesday afternoon he had had two or three attacks of the same kind of colic, but so slight that he did not think them worth notice. Wednesday morning, or forty-eight hours after the full meal, he had a peculiar and violent headache, which went off about ten in the forenoon, since which he had felt well. He thought the family would let toad-stools alone in the future.

No remedial measures were used in either of the above instances, except the dose administered by the writer.

Comments on the above Case. — Mr. W.'s symptoms are exactly those of a person poisoned by amanitas eaten with food. The long period prior to attack and the severity of the poison absorbed, which remained in the system long after the fungus was expelled, make his a typical case, agreeing with others known to the writer.

It is not so easy to reconcile the experiences of his wife and children with the ordinary effects of the alkaloid known as amanitine or muscarine. The "tasting all round" Sunday night confuses matters, and forbids one to say how much was due to these small doses and how much to the full meal. But it seems to me that these points are worthy of notice: —

(1.) *Any* powerful drug taken in different proportions by those of widely distant ages and idiosyncrasies will produce varying results.

(2.) Mr. W. ate the fungus raw, and although he ate but little he is evidently very susceptible to the action of the alkaloid. Physical sensitiveness to the effects of tobacco and other narcotics varies widely in different constitutions.

(3.) The case is worse confused by the fact that the stew was of puff-ball, and the two elements remained (mixed) twelve hours before being eaten. The puff-balls contain an anæsthetic, of which little is known. When young, although the smell may be strong, — somewhat like valerian, — no fact in mycology is more certain than that they may be eaten with safety. When old, it is also certain that they have been burnt to stupefy bees; further, that operations have been performed on patients under their influence.[1]

(4.) Mrs. W.'s case, in comparison with that of her husband, is an excellent example of the theory that the more quickly amanitas acts the less serious the results. The longer the elapsed time from ingestion to operation, even if the fungus be expelled, the more of the alkaloid remains in the system.

(5.) The mushroom which poisoned these persons is very common in this State. I therefore append a description of it in general terms: The base of the stem, in entering the ground, has a wrapper incasing it more or less closely. To find this, let the fungus stand, and poke away with care the leaves and dirt around the stem. This stem has usually a collar or ring around it about two thirds of its length from the ground. The gills (or rays underneath the cap), as well as stem, are always pure white. The top of the cap is variable in color, according to the specific member of the genus. The most common variety has a yellow spot in the centre of the disk, shaded off to pure white at the edge. There are also varieties with red, golden, drab, greenish, and pure white skin for the top of the umbrella. But all have warts or scurf on this skin, which formation easily rubs off. Sometimes a specimen may be found where these warts are all gone, but near it may then be seen others just like it which have not lost this mark. By noticing these three marks, *wrapper* at the base, *collar* on stem, and *scurfy* top, per-

[1] See testimony of Dr. Richardson, as quoted by Dr. T. L. Phipson, in the Popular Science Review (British), 1863, vol. ii, page 26, as to the properties of Lycoperdon giganteum.

sons may avoid the most venomous family of mushrooms. To be sure, some esculent fungi will also be neglected, but this is far better than to eat a poison having no known antidote. The noxious principle is an alkaloid, producing all the symptoms of Asiatic cholera, and ending in delirium and death. Although known since the days of the Roman Empire, physicians have never been able to counteract its influence with any certainty, whites of eggs and the usual remedies proving utterly useless.

I have had several other cases reported to me which have not terminated so happily. Medical men would confer a favor and help to enlighten a dark subject by advising me of any parallel cases that may occur in their practice.

No. 11 Pemberton Square.

RECENT PROGRESS IN MEDICAL CHEMISTRY.[1]

BY WILLIAM B. HILLS, M. D.

TOXICOLOGY.

Conversion of Calomel into Corrosive Sublimate. — Two cases have been observed, presenting all the characters of corrosive sublimate poisoning, after the use of powders composed of calomel and sugar, which had been prepared for some time. As it was possible that the corrosive sublimate in these cases was formed from the calomel by the action of the sugar or some substance contained in it as an impurity, many experiments have been made in order to discover the conditions under which the mercurous is converted into the mercuric compound. Herr Slop[2] finds as the results of his experiments that corrosive sublimate is formed in the presence of hydrochloric acid, organic acids, chlorides of the alkalies, and carbonates of the alkaline earths, the last being specially important on account of the frequency with which calomel is dispensed with magnesia. On examining several specimens of calomel pastilles, having sugar for their basis, and which had been made more than a month, he found some to contain a considerable quantity of corrosive sublimate, while others did not show a trace. He attributes these differences to the fact that the latter had been prepared with a neutral refined sugar, while for the former raw sugars, which are often acid (colonial sugar) or alkaline (beet-root sugar), on account of the hydrate of lime which they contain, introduced in the neutralization and clearing of the juice, had been employed. He thinks that it is by the action of these impurities on the calomel that the corrosive sublimate is formed.

Mr. Langbeck[3] doubts whether well-washed calomel mixed with per-

[1] Concluded from page 270.

[2] The Dublin Journal of Medical Sciences, March, 1879, page 233, from the Pharm Journal, August 31, 1878.

[3] Ibid.

fectly dried sugar, and kept in a stoppered colored bottle, will undergo the change into corrosive sublimate, and he has made some experiments which confirm him in this opinion. M. Jolly [1] has determined the amount of corrosive sublimate formed from one gram of calomel after digestion for six hours at a temperature of 40° C. in one hundred grams of distilled water, to which the following additions had been made: —

Substance added.		Amount corrosive sublimate formed.
0.2 gram hydrochloric acid	=	.003 gram.
0.5 " sodium chloride	=	.001 "
2.0 gram citric acid	=	.001 "
0.5 grams sodic hydrate	=	.006 "
1.0 " sodic carbonate	=	.004 "
1.0 " magnesia	=	.003 "

Calcined magnesia and calomel were mixed, each one gram; on washing the powder, after twenty-four hours, with distilled water, .001 gram corrosive sublimate was obtained. Lime has the same effect, but after digesting mixtures of calomel and carbonate of calcium or magnesium with distilled water no change was observed after six hours. Troches of calomel made with pure sugar, free from lime, did not contain a trace of corrosive sublimate after several months. Jolly found that corrosive sublimate was formed in mixtures of calomel with raw sugar, and he also attributes this to the impurities which the raw sugar contains.[2]

Dr. G. Vulpius [3] has arrived at the following conclusions as a result of his experiments on this question: —

(1.) No corrosive sublimate forms in twenty-four hours in mixtures of calomel with white sugar, milk sugar, calcined magnesia, carbonate of magnesium, or bicarbonate of sodium.

(2.) No such formation takes place in three months in mixtures of calomel with calcined magnesia, carbonate of magnesium, and sugar.

(3.) Mere traces of corrosive sublimate are found at the end of three months in a mixture of calomel, bicarbonate of sodium, and milk sugar.

(4.) A considerable quantity of corrosive sublimate forms in the same time in a mixture of calomel, sodium bicarbonate, and cane sugar.

(5.) Corrosive sublimate forms in calomel powders containing calcined magnesia or sodium bicarbonate, if digested with water.

(6.) The formation of corrosive sublimate in mixtures of calomel and alkalies, digested in water for a short time, is not favored by the presence of hydrochloric acid, but, on the contrary, hindered to some extent on account of the neutralization of the alkalies by the acid.

Physiological Antagonism. — Professor Husemann has made a series of investigations on the antagonistic and antidotal action of certain drugs. They relate more especially to the action of chloral as an anti-

[1] American Journal of Pharmacy, August, 1878, page 387, from L'Union Phar., 134–136. Gaz. mé dicale.

[2] The London Medical Record, December 15, 1878, from Gaz. méd. de Paris.

[3] Archiv de Pharmacie, April, 1879, page 347.

dote. He finds [1] by experiments upon rabbits that chloral acts as an antidote to strychnia, diminishing the spasm and preventing death; also to the mixture of strychnous bases, known in commerce under the name of brucin; also to thebaia, one of the opium alkaloids, which at the same time produces tetanus and diminishes sensibility. In poisoning by chloride of ammonium, death resulted more quickly when non-fatal doses of chloral hydrate were given than when fatal doses of either ammonium chloride or chloral alone were employed. This result is doubtless due to the paralyzing effect of both substances on the respiratory centre. The spasms produced by chloride of ammonium diminish after the employment of non-fatal doses of chloral hydrate, and can be wholly suppressed. Still, death occurs. In the case of codeia it was found that the quantity of the poison which could be counteracted by chloral hydrate was considerably less than that of picrotoxin. The minimum fatal dose, or a quantity half as much greater, of codeia could be counteracted by chloral hydrate, but twice the fatal dose could not, while after five times the fatal dose of picrotoxin life could be saved.

Chloral acted against calabarin about the same as against codeia. In cases of baryta poisoning it appeared to have no effect. The same was true in cases of poisoning by carbolic acid; the minimum fatal dose still produced death. It was also found that a combination of fatal or non-fatal doses of carbolic acid and chloral hydrate caused a greater fall of temperature than is produced in acute poisoning by either of these substances alone.

Husemann has also made experiments [2] bearing upon a statement of Amagat's, that in poisoning by small quantities of strychnia treatment by alcohol is preferable to that by chloral, on the ground that the quantity of chloral necessary to neutralize small but fatal doses of strychnia is dangerous to life, while such is not true of alcohol. In experiments upon rabbits, Husemann saw death take place after doses of alcohol which Amagat had pronounced safe, and attributes this to the same differences in susceptibility to alcohol which prevail among these animals as among men. The determination of the amount of alcohol necessary in strychnia poisoning is less exact than the determination of the amount of chloral. He found that at times only one and one half the minimum fatal quantity of strychnia was neutralized by alcohol; he advises, therefore, against the employment of alcohol as an antidote when the quantity of strychnia much exceeds the minimum fatal quantity. Chloral acted successfully and with certainty when five or six times the minimum fatal dose of strychnia had been taken, while alcohol was absolutely of no avail when the dose of strychnia was only two or three

[1] Centralbl. für die med. Wiss., No. 7, 1879, page 125, from Arch. für exp. Pathol., etc., ix. page 414.

[2] Centralbl. für die med. Wiss., No. 20, 1879, page 365, from Arch. für exp. Pathol., etc., x. page 101.

times the minimum fatal dose. Husemann further found that a single fatal dose of strychnia was counteracted if the animal was first put into a condition of apathy by physostigmin. With large doses of strychnia, after the action of the physostigmin had ceased, the reflex irritability of the animal was scarcely lowered, so that the value of physostigmin as an antidote was less than that of alcohol. The author therefore considers physostigmin perfectly useless as an antidote to strychnia in warm-blooded animals, and the exclusive chloral treatment to be by far the best.

Husemann also discusses [1] the relation between strychnia and chloral hydrate when the dose of strychnia exceeds the minimum fatal dose by a very little, and when it is more than six times as great. In the former case the occurrence of tetanic spasms may be altogether prevented by chloral hydrate; in the latter the necessary dose of the antidote is too large to be tolerated, and death results from chloral poisoning. The limits of antagonism being thus relatively narrow, he made further experiment with a view to finding some more perfect antidote to strychnia. Bromide of potassium in combination with chloral hydrate, alcohol, and physostigmin were tested and compared with one another and with chloral hydrate. His conclusions in regard to the value of alcohol and physostigmin have already been stated. As regards the bromide of potassium, he found that its addition failed to intensify the action of the chloral hydrate. "Late" convulsions were observed more frequently when the two drugs were given together than when the chloral hydrate was given by itself. This is attributed by the author to some interference on the part of the bromide with the normal elimination of the strychnia through the kidneys.

The practical conclusion drawn from these investigations is that for practical purposes chloral hydrate is to be regarded as the best and safest antidote in poisoning. During the chloral sleep the patient should be watched, and any cessation of the respiratory movements (which is very prone to occur) combated by methodical compression of the thorax.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

October 14, 1878. *Injury to Ulnar Nerve.* — Dr. J. J. Putnam reported a case of injury to the ulnar nerve, with resulting atrophy of the muscles supplied by it. The patient was a rowing-man by profession, and prolonged pressure in rowing had caused the injury. Dr. Putnam said that similar cases had been previously reported by a reliable and competent observer.

[1] The London Medical Record, February 15, 1879, page 51, from Archiv für exp. Pathol., etc., x. 1 and 2.

An Overdose of Gelsemium Sempervirens. — Dr. Goss read the paper, which was published in the Journal for July 3, 1879. In answer to questions, Dr. Goss said that the common name of the plant was yellow jasmine, and it was given in neuralgia of the fifth nerve more especially; also in other neuralgias.

Dr. Bolles mentioned some of the botanical properties of the plant, and said that the root was the part employed in medicine.

Dr. Wadsworth said it had been used of late as a mydriatic.

Dr. Cotting had used it several times with success in neuralgia. Once in a case of cephalalgia the patient took about one hundred drops in the course of the night, and experienced numbness of the extremities, dimness of vision, dropping of the lower jaw, and weakness and decrease of power in the fingers. There was no loss of consciousness. The following curious double vision was complained of: a person in the room was properly located by the patient at a distance, and at the same time appeared in close proximity.

Dr. Green thought that the dropping of the jaw would indicate the special affinity of the drug to the fifth pair, as mentioned by English observers and others.

Dr. Knight had known of a case where a gentleman who by mistake had taken quite a large dose of the gelsemium had disturbance of vision to so great a degree that he was obliged to wear colored glasses for several days.

Ovariotomy. — Dr. J. Homans reported a successful case of ovariotomy and showed the specimen. The case has been published in the Journal.

Fractured Tibia, with Repair, in an Aged Person. — Dr. Hastings reported the following case: A woman eighty-nine years old, while walking from her bed to a bureau, fell upon the floor, and was discovered shortly afterwards with an oblique fracture in the lower third of the right tibia. A silicate of potash bandage was applied, and allowed to remain seven weeks. At the end of that time it was removed, and firm union was found to exist. Notwithstanding the apparently favorable course of the injured leg, the patient gradually failed, and died of exhaustion, three months after the accident. The interesting fact about the specimen was the evidence of the reparative powers of nature at the extreme age of nearly ninety years.

Rupture of the Interventricular Septum of the Heart in Consequence of External Violence. — Dr. Draper presented the specimen, and related the case as follows: Barney McD., a strong, vigorous Irish laborer, thirty-eight years old, was standing on a low platform at the edge of a sewer excavation twenty feet deep. A cart was carelessly backed against the platform, throwing it and its occupant into the cut. It is not known accurately, but it is probable that the man in his fall struck some of the timbers used in supporting the sides of the ditch. He was taken from the bottom of the cut in an insensible condition, and death ensued in about twenty minutes.

The autopsy was made twenty hours after death. Except a compound fracture of the left tibia and fibula, and some superficial abrasions of the forehead, nose, and left cheek, and upon the front of the chest two inches below the middle of each clavicle, there were no external signs of violence.

The pericardium was distended with mingled fluid blood and coagula, the latter being entangled in numerous firm bands, the remains of former pericar-

ditis. Across the inferior portion of the pericardium was a rent four inches long, involving the entire thickness of the pericardium with the upper muscular layers of the subjacent diaphragm.

The interventricular septum presented a rupture involving its entire thickness, and extending in a transverse direction nearly across the whole width of the wall, permitting free communication between the two ventricles.

The lungs showed a few subpleural ecchymoses, varying in diameter from one sixteenth to one quarter of an inch, and most marked in the interlobar fissures. Otherwise these organs were not remarkable.

The peritoneal cavity contained two fluid ounces of bloody fluid. The liver presented four superficial lacerations on the inferior surface of the right lobe near the anterior border. The right kidney lay in a mass of fatty tissue infiltrated with blood; it had on its anterior surface, near the hilum, five small lacerations, half an inch long and one or two lines in depth.

The other organs presented nothing noteworthy.

The sternum was fractured through the centre of its body. The fifth and sixth ribs on the left side were broken just outside the nipple line.

Dr. Jackson considered that the specimen was of extreme interest on account of the extent of the laceration of the heart.

November 25, 1878. *Aneurism of the Cœliac Axis.* — Dr. Lyman reported the case. A negro coachman, thirty years of age, entered the City Hospital October 26, 1878. He had usually been very well. Two months before his entrance to the hospital he began to complain of vertigo, burning at the epigastrium after eating, and tympanites. After a month he was obliged to take to his bed, because of a severe pain which was located in the umbilical region, and was constantly present. The patient stated that there was a "beating" at the seat of the pain, like the "beating of the heart." The pain was "dull and pressing," and accompanied by occasional "cramps;" it was increased by a full inspiration and by motion. Vomiting had been a frequent symptom, with distress after eating. For about a month there had been profuse ptyalism. The pain continued the same, and asthenia was marked. The appetite was fair, but "heavy" food could not be retained. The bowels were constipated. The urine was high colored and scanty. The pulse was 96 and weak. The temperature was normal. A systolic sound was heard loudest two inches above the left nipple and one inch inside of it; it diminished in intensity towards the apex of the heart. The pulmonic second sound was accentuated. Just above the umbilicus and to the left side there was a circumscribed, very tender spot, where a systolic bruit was heard. There was no thrill. A few days later this part of the abdomen was more prominent. It was discovered that when pressure was made on the tumor the ptyalism was increased.

At the autopsy, by Dr. Cutler, the heart and lungs were found to be healthy. The aorta was affected with diffuse chronic enaortitis. There was found to be a large aneurismal dilatation of the cœliac axis, with a distinct wall, forming a tumor about the size of an eight months' fœtal head. The aneurism had in part involved the pancreas, the head being on one side and a portion of the body on the other, while the intervening portion had been absorbed.

Sixteen ounces of bloody serum were removed from the abdominal cavity, and a clot as large as the two fists lay in the left lumbar region; rupture had taken place on the left and anterior portion of the tumor.

Dr. Abbot had seen a case in which salivation was a marked symptom. The patient was very anæmic. Large doses of iodide of potassium were followed by cessation of the symptom; also, a sloughy condition of the parotid gland occurred. At the autopsy, cancer of the pyloric end of the stomach was discovered, which pressed upon all the adjoining parts, and had caused salivation by pressing on the pancreas.

December 9, 1878. *Repair after Excision of the Hip.* — Dr. Cheever showed the specimen and related the history. A boy aged seven entered the City Hospital in November, 1876. He had fallen while jumping off some steps, thirteen months before, and had struck on the right hip. Since then he had complained of pain in the hip and knee. Three months before entering the hospital an abscess pointed in Scarpa's triangle and was opened. When first seen there was eversion, shortening, and flexion of the limb, impaired mobility of the joint, flattening of the nates and tilting of the pelvis, and anterior curvature of the spine. There was also a fistulous tract discharging pus on the anterior aspect of the thigh. As there had been no improvement in several months of treatment, excision was advised, but refused. A month later the head was dislocated out of the socket and rested on the dorsum ilii. Some three weeks afterwards excision was performed, the head of the femur being removed just above the trochanters. At the operation the acetabulum was found to be roughened, and the head of the femur attached to it to some extent. Extension was applied, and the wound dressed with soda and opium wash. The wound did well, but pus burrowed down the leg. New sinuses appeared, at the bottom of which was dead bone. About November 1st the wound of excision was entirely closed. Emaciation was extreme, the legs were fixed in a flexed position, and there was eczema of the genitals. In May, 1878, the patient was discharged. In August he was readmitted, with ulcerations over the thigh and several bed-sores. He also had excessive diarrhœa. He continued to become worse, and finally died early in December, 1878.

At the autopsy, by Dr. Cutler, amyloid degeneration of the spleen, liver, kidneys, vessels of the stomach and intestines, was found. The acetabulum was entirely gone, the opening into the pelvis where it should have been being an inch and a quarter in diameter. The ileum, just above, was carious and thickened, the tuberosity of the ischium carious and much enlarged, while the os pubis and sacrum were healthy. The femur was carious from the great trochanter down to the upper part of the middle third of the bone. The outer compact portion of the bone was absorbed, so that in places it was a mere shell, while in others it was pierced through. The interest of the specimen lay in the fact that the head of the bone was regenerated to a very considerable extent, and was represented by a cartilaginous nodule the size of a cherry.

Optico-Ciliary Neurotomy. — Dr. Wadsworth showed a patient on whom he had performed this operation. The case has appeared in the Journal.

Dr. Derby thought Dr. Wadsworth did not do justice to the old method of

enucleation when he said that the mobility of the stump was usually impaired; he instanced a case in Paris where the professor called up the students, and no one could tell which was the false eye. In children, often, when an eye is removed, that side of the face does not grow as well as the other, the bones not seeming to fill out as well. He regarded the operation very favorably himself, and hoped much from it.

Dr. Lyman had seen a man with motion in an artificial eye so good that he, sitting at the same table with the person for months, had not discovered the deformity.

Dr. Wadsworth, in answer to questions, thought that atrophy would be likely to occur, and that the nerves would not therefore regenerate; this was shown by the continued anæsthetic condition of the cornea.

Bone fractured by the Osteoclast to correct the Deformity of Rachitis. — Dr. Cabot showed a tibia fractured by the osteoclast to straighten legs crooked from rachitis. He also exhibited casts of the legs taken before fracture, and a photograph showing the condition afterwards. The patient was four years old, and a loud crack or snap was heard to follow the application of the osteoclast at the time of fracture. No pain or other subjective symptom occurred, and no opiate or treatment other than the application of a plaster-of-Paris bandage was required. The child sickened some three months afterwards, and died of general miliary tuberculosis. The fracture was found to have been transverse in each tibia, and was complete, not a green-stick fracture. Repair had been perfect, but the line of fracture could just be distinguished. Dr. Cabot also showed the osteoclast, which was the instrument already described in the journals, and consisted of a beam of steel bearing two movable stocks, between which protruded a screw armed with a bunter.

Syphilitic Necrosis of the Frontal Bone. — Dr. C. D. Homans showed the specimen and related the case. The patient had had syphilis some six years before, and somewhat later had received a shot wound of the forehead, from which he fully recovered. For two or three years there had been a sinus in the forehead, which was apparently not the result of the local injury. When the patient entered the hospital the sequestrum was exposed to the air over a space an inch in diameter. The sequestrum gradually loosened, and when removed was found to include both tables of the skull in part of its extent. It measured three and a half by two and a half inches. There was pulsation visible in the membranes of the brain for a time, but cicatrization gradually occurred, and the patient was allowed to leave the hospital when the wound was nearly closed.

Dr. Warren had had a similar case, in which the cicatrization had been irregular in forming a central bridge and leaving two lateral sinuses, which on healing left distinct and quite deep holes, which subsequently filled up somewhat.

MEDICAL EXPERT TESTIMONY: WHAT IT IS AND WHAT IT SHOULD BE.[1]

PART I. WHAT MEDICAL EXPERT TESTIMONY IS.

THE committee having in charge the subject of medical expert testimony have considered the topic, and discussed many of the issues which it presents. It has been found too extensive and difficult to be exhausted, or even matured into any satisfactory conclusions, in the time which they have had at their command, and it became apparent to them that it would be impracticable to present any results within the limit allotted them in the arrangements for this occasion. They were compelled, therefore, to the necessity of asking a postponement of what was properly expected of them to a future meeting of the society. In doing this, however, they remark briefly upon the first branch of their inquiry, *what expert testimony is* at present; leaving the consideration of *what it should be* for a subsequent paper.

It is beyond controversy that this important branch of evidence, as used and applied in the courts, is open to many causes of objection and criticism. That it is also subject to many abuses, and is often a hindrance rather than a help in the administration of justice, is unquestionable.

The most conspicuous fault in this class of testimony is its evident partisanship. Even in regard to questions which are scientific in their character, and where it would seem to be possible either to declare and apply positive results, or to admit that such results are not yet reached, experience has shown that men of respectable attainments and sufficient skill array themselves in antagonism, and vehemently support or attack one side or the other of the issue of a cause. Called upon to express an opinion upon an assumed or proven state of facts, and where, weighing and applying the facts with judicial fairness, only one conclusion would appear to be possible, exactly contrary results are given by men who apparently stand equally qualified as witnesses. And it is found that when one or the other of these is tested or pursued by the fairest method of cross-examination, he espouses the cause of the side which has called him; so that it at once appears that he is retained for that side, and comes to support it in all emergencies, disregarding the demands of absolute truth in the desire for personal success or partisan victory in that especial trial. That there are exceptions to this course is true, but in the large majority of cases the experience has been as above described. Those who have been familiar with some of the most important trials in this State have had occasion to see what ought to have been an inquiry to be determined with absolute accuracy as far as science has reached, and left undetermined as to what is beyond, degenerate into a mere personal contest between disputants who were called as experts on different sides, and disposed of as the preferences of jurors inclined to the method or manner of one or the other of the litigant witnesses.

[1] At the February meeting of the Massachusetts Medico-Legal Society, a committee was appointed, consisting of Attorney-General Marston (chairman), Prof. H. P. Bowditch, M. D., T. H. Tyndale, Esq., A. E. Pillsbury, Esq., Medical Examiner Y. G. Hurd, M. D., and Medical Examiner F. W. Draper, M. D., to report upon the subject of medical expert testimony. At the meeting, June 10, 1879, the committee reported upon the first part of the subject, and further time was granted in which to complete the work.

This has often been because men called to testify have regarded themselves as retained on the one side or the other. The remark of Rufus Choate, that in an action concerning real estate it was first necessary to "retain a surveyor," was a recognition, out of his experience, of the fault and defect of administration of which we have spoken. And it is matter of common knowledge that in other departments of art or science than surveying it is the daily practice to employ, as if retained, expert witnesses, who are expected to take the same relation to the cause in hand as the counsel who are to try it. Witnesses thus engaged have allowed themselves to form opinions upon a partial and one-sided presentation of the facts, and, having formed the opinion, have persevered in defending it after other modifying facts have appeared. The verdict has often depended more on the skill and ingenuity of the witness in maintaining his theory than upon the soundness of his position.

Another mischievous result of expert testimony, as it is, has been the employment of pretenders and charlatans where only men of real learning and just perceptions of duty could aid in reaching correct conclusions. The effect has depended in such cases not so much on what the witness knew as upon what he claimed to know; and if he has been sufficiently conceited and voluble to evade the search of cross-examining counsel, or to confuse unscientific jurors, or, oftener, to commend himself to the prejudices or theories of men who have happened to sympathize with his views, the object of calling him has been attained, and justice has been defeated. And in respect to the large number of cases, constantly in the courts, where physical injuries have been suffered, a dishonest and mercenary plaintiff can often deceive an unscientific physician as to the presence of symptoms, and simulate a case that does not really exist. If the patient has misled an adviser of such a character, the latter will be little likely to admit his errors of diagnosis when he is called to the stand, and may be expected not only to persist in his mistakes, but to exert himself resolutely and as adroitly as possible to hide and overcome them.

And it also frequently happens not only that the witness is employed as a partisan, or is afterwards disposed from pride of opinion to defend what he ought to see is erroneous, but also that his compensation is left to depend upon the result of the trial. It follows, of course, that he has thus a pecuniary interest, which creates a controlling bias. While he appears on the stand as a scientific expert, he is, in fact, practically a party to the suit. He has been such from the beginning. He has examined the subject and constructed his opinions from that stand-point, and, affected by that perversion, the bias and intent which he had at the outset are intensified as the contest goes on. If, as not unfrequently occurs, there are several trials, he inevitably becomes more deeply interested and more perverse. And while the court and jury are looking to him as one who may aid in ascertaining the truth, he is constantly leading them in the other direction.

There are also those employed as experts who, while they do not lack in ability, are wanting in integrity, — who espouse a theory with no regard to conscience or justice. These are not misled by interest, or bias, or error, but intentionally undertake to defend a position with no regard to truth or consequences. Cases of this sort are not frequent, but they are not unknown. When

such testimony assists in securing a verdict, the result is a reproach to the administration of the laws.

Fortunately, there is no difficulty in obtaining expert witnesses who either are not obnoxious to any of the complaints which we have made, or are as free from them as the lot of humanity will admit. But there is no system or method in law by which their services can with certainty be applied. The party who is able to pay such compensation as such men are fairly entitled to demand and receive may secure their assistance. Those who cannot do this will resort to some of the ignoble ways which have been noticed. There is no adequate provision of law which regulates or directs the procurement of that which is desirable, or which prevents the employment of that which is detrimental. Whether any legislative enactments are available and can be made efficient to remedy the mischiefs of which your committee has spoken, and what other means of improvement in these matters are practicable, must be left for future consideration.

ESSAYS IN SURGICAL ANATOMY.[1]

This book is made up of a number of essays, many of which have obtained prizes, embodying a vast amount of labor in dissection and collaboration. The first is upon the surgical anatomy and history of the common external and internal carotid arteries, and received the first prize of the American Medical Association in 1878. The second essay is devoted to a like study of the innominate and subclavian arteries, and received the second prize of the association for that year. The author protests vehemently against the practice of tying the common carotid for lesions of the external carotid or its branches, the death-rate after ligature of the former being forty-one per cent., and after ligature of the latter but four and one half per cent. This rule holds only when there is one half inch between the lesion and the bifurcation of the primitive trunk. He endeavors to prove that ligature of the innominate is not a justifiable operation, and that ligature of the subclavians, more especially the right, in their first surgical divisions is also unjustifiable. He believes also that the mortality of sixty-five per cent. following ligature of the subclavian arteries in their third surgical divisions on account of hæmorrhage, and the mortality of forty-three per cent. after ligature of these vessels in their third divisions on account of aneurism, are unnecessarily great. As an example of the amount of work done by the author, we would mention one hundred and twenty-one dissections of the common carotid and its branches made by himself, and a table of nearly eight hundred cases collected by him. The latter makes the work an exceedingly valuable one for reference. Eighty-seven dissections were made of the tibio-tarsal region, the results of which show the importance of preserving as much of the external plantar artery as possible, as it is this branch which gives the main supply to the heel flap in amputation through the joint. The farther forward the incision, which runs under the heel, is brought, the less danger there is of sacrificing the branches

[1] *Essays in Surgical Anatomy and Surgery.* By John A. Wyeth, M. D. New York: William Wood & Co. 1879.

of this vessel. There are also some notes on the obturator artery and the vessels of the hip-joint.

The industry of Dr. Wyeth cannot be too highly praised in producing a specimen of work founded upon most painstaking and careful observation, which should serve as a brilliant example to younger observers.

THE DISCOVERY OF ANÆSTHESIA.

Dr. Sims has seen fit to reopen this discussion by bringing forward again the claims of Dr. Crawford W. Long, of Georgia, in an article recently contributed to the *Virginia Medical Monthly*. These claims are founded on statements made by Dr. Long, many years after the introduction of anæsthesia, to the effect that as early as 1842, and once or twice in subsequent years, he had employed ether in a minor operation. The general ground taken by Dr. Sims is that all claimants have about an equal right to the credit, and should be mentioned in the order of their use of ether; that to the surgeons of the Massachusetts Hospital the world owes the immediate and universal use of anæsthesia of surgery. Nevertheless, a handsome engraving of Dr. Long accompanies the article, with the title of "Discoverer" appended.

The answer to this statement seems to us very simple. From whom did the surgeons of the hospital get this discovery which they introduced to the scientific world? Certainly not from Long, whom they nor any one else had ever heard from on this subject. Certainly not from Wells and Marcy, who came on to Boston with their gas, tried to introduce it, and failed several years previously. Certainly not from Jackson, who used it as a toy, like the students of Harvard College; or the boys and girls at the quilting parties in Georgia, when a negro boy was soundly etherized on one occasion; or the good people of Burlington, Vt., as far back as 1822, who talked of its use in pulling teeth. They obtained it from no other than Morton, whose recklessness, energy, and enthusiasm infected Dr. Warren, and persuaded him to give it a trial. The inevitable result followed: jaws were taken out, legs were cut off, during an unbroken sleep. A few weeks later all Europe was ablaze with the discovery. What Dr. Long had at that time done in the South we may gather from the comments of the *New Orleans Medical Journal*, which in the January following says: "That the leading surgeons of Boston could be captivated by such an invention excites our amazement." "Why, mesmerism, which is repudiated by the savants of Boston, has done a thousand times greater wonders."

Judge Story says: "An imperfect and incomplete invention, resting in mere theory, or in intellectual notion, or in uncertain experiments, and not actually reduced to practice, is not and cannot be patentable under our acts." "He is the first inventor . . . . who has first perfected and adapted the same to use." Until Morton had shown that ether was applicable to all cases, and could maintain oblivion during the acutest pain, anæsthesia had clearly not been discovered, and it was he, and he alone of all the claimants, who persuaded the world to use it. We merely indicate here a few of the arguments brought forward repeatedly by a high and able authority on this question for the benefit of those to whom the subject is not an old story.

We are asked by Dr. Sims to petition Congress for an appropriation for Long's family "and his co-workers." Why should the profession pay this tribute to one whose neglect to impart his knowledge to others it is difficult to regard in any other than an unfavorable light?

Dr. Long's experiences are interesting, but they possess an antiquarian rather than a professional or a historic value.

MEDICAL NOTES.

— We notice with pleasure the recent arrival in Boston of Prof. H. W. Acland, M. D., F. R. S. Dr. Acland is Regius Professor of Medicine at Oxford, and has recently been elected president of the British Medical Council for a second term of five years. Dr. Acland has not been in the United States since 1860, when he accompanied the Prince of Wales. He will find many new objects of interest as well as many old friends.

— The members of the Essex North District Medical Society made an excursion on the Merrimac in the steamer General Bartlett, on August 12th. The steamer stopped at various points on the river for the accommodation of members. The excursion terminated with a picnic at Eagle Island. The committee of arrangements consisted of Drs. Crowell, Huse, and Snow.

— Dr. Wm. O. Moseley, Jr., who recently lost his life on the Matterhorn, graduated form Harvard Medical School last year. He was an excellent student, and as house pupil at the Massachusetts General Hospital acquitted himself with credit. He was an enthusiastic mountain climber, and several years ago made a tour through Switzerland, during which he accomplished many difficult ascents. He was repeating his tour this summer, having become an expert mountaineer, and, in fact, was a member of the London Alpine Club. His over-confidence seems to have proved his destruction. The summit had been successfully reached, and on the return the most difficult part had been passed, when, in spite of the warnings of his party, he loosened the rope which bound him to them. In vaulting over a rock his foot slipped, and he slid rapidly over the snow below. This had become hardened by the frost, and his frantic efforts to stop himself were of no avail. His body was found two thousand feet below, stripped of clothing and almost unrecognizable. He was buried in the church-yard at Zermatt, by the side of victims of former accidents on this treacherous mountain.

— Dr. G. H. Lyman is at present in Paris with his wife; he will return to this city in September. — We regret to learn that Dr. Buckminster Brown is quite ill with an attack of pleurisy at his summer residence at Princeton. — Dr. Geo. J. Engelmann, of St. Louis, was in this city last week; he has recently recovered from a severe palmar abscess, produced by poisoning in a midwifery case, and resulting in the loss of a portion of one finger. — Dr. H. I. Bowditch has so far recovered the use of his leg as to be able to go to Washington to attend to duties connected with the National Board of Health. — Dr. Geo. C. Shattuck has returned from Europe greatly improved in health, where he has resided for the past year.

— The meeting of the British Medical Association was held during the week

ending August 9th at Cork. Dr. Denis C. O'Connor presided. Among the strangers present was Charcot, and from this country we find the names, Dr. Turnbull, of Philadelphia, Dr. Byford, of Chicago, and Dr. Beard, of New York. Dr. Alfred Hudson delivered the address in Medicine on Laennec: His Labors and their Influence in Medicine. Mr. William S. Savory spoke in his address in Surgery on the Prevention of Blood Poisoning in the Practice of Surgery.

— Dr. William Rimmer, the late lecturer upon art anatomy at the Museum of Fine Arts, died at South Milford, Mass., on August 19th. He was born in Boston, February 20, 1816. His taste for art led him, in 1863, to abandon the practice of his profession at Quincy, Mass. His success as a sculptor and his valuable lectures on art anatomy are well known to many New England physicians.

NEW YORK.

— Still another case of yellow fever has occurred in connection with the bark Wallace, whose stewardess, it will perhaps be remembered, died of the disease some time since at the Presbyterian Hospital, although the vessel arrived from Havana as long ago as July 2d, and was supposed to have been thoroughly disinfected. On the passage one of the crew was taken with yellow fever, but recovered, and on her arrival at this port Dr. Vanderpoel kept the bark at quarantine for fifteen days, during which time she was fumigated twice. While in quarantine the cargo was discharged, and as she was in a bad condition her timbers were scraped. At the end of the fifteen days, no new cases of yellow fever having in the mean time developed among the crew, she was personally inspected by the health officer, and allowed to come up the bay. It was some time after this that the stewardess was attacked with the disease, although she had not been feeling well for a week or two before it commenced, and it was not until just before her death, which occurred on the 29th of July, that the true nature of the affection was suspected.

As soon as Dr. Vanderpoel learned of this case he ordered the vessel back to quarantine. While she had been lying in the East River, off Williamsburg, however, she was visited several times by a young man in the employ of the firm from whom she was receiving a cargo of oil, and not long after his last visit to her he was seized with yellow fever, of which he died in the course of four or five days. The result of this case will probably be that all sailing vessels from infected ports will be included in the interdict which forbids steamers arriving from such to come to the city at all, these being obliged to remain at quarantine during their whole stay at New York, and to load and unload there. It is a case of considerable interest, as showing the pertinacity with which yellow fever infection will sometimes cling to a ship, even after the most diligent and careful efforts have been made to eradicate it.

— During the week ending August 16th the number of deaths reported in the city was five hundred and three, and of births five hundred and eighty-four. It is not often that the reported number of births exceeds that of the deaths so much (although the *actual* number doubtless does), especially at this season, and the comparatively low rate of mortality is gratifying, as showing an exceptionally good condition of the public health for this time of the year, when the maximum death-rate is apt to be reached.

— The infant mortality from June 7th to August 2d, in comparison with the entire number of deaths, was as follows : —

Week ending	Total mortality.	Under 1 year.	Under 2 years.	Under 5 years.
June 14th.	495	100	141	183
" 21st.	493	183	223	266
" 28th.	649	243	307	365
July 5th.	751	368	447	488
" 12th.	698	297	362	407
" 19th.	772	340	412	461
" 26th.	600	244	296	327
August 2d.	636	244	295	337
Totals.	5034	2019	2483	2839

Thus, of all persons who died, fifty-six per cent. were children under five years, forty-nine per cent. children under two years, and forty per cent. children under one year of age.

— In a house at Ogdensburg, New York, where five children were ill with diphtheria, three kittens which were permitted to be with them from time to to time were taken with the disease, and all died on the day after the attack commenced. A post-mortem examination showed the presence of diphtheritic membrane in abundance in their throats.

LITERARY NOTES.

Geo. O. Rumbold & Co., of St. Louis, have just published the report of a committee appointed by the St. Louis Medical Society to inquire into the Relations of the Yellow Fever Epidemic of 1878 to the City of St. Louis; also a report by the chairman of the committee, Dr. Ford, on the Meteorological Conditions and Ætiology of Yellow Fever.

Dr. D. G. Brinton has purchased the plates and rights of publication of The Physicians and Surgeons of the United States. It contains biographical sketches of twenty-seven hundred contemporary regular physicians. He proposes to issue a second edition with additions and corrections. The plates will be omitted, thus reducing considerably the price of the book. Dr. W. B. Atkinson, permanent secretary of the American Medical Association, the editor of the former edition, will edit this one also.

SHORT COMMUNICATIONS.

OBITUARY.

Dr. Jerome Van Crowningshield Smith, formerly editor of this journal, died on August 20th at Richmond, Mass. He was born in Conway, N. H., July 20, 1800. His father was a physician. He received a degree from Brown University in 1818, and a medical degree from Williams College in 1822. In 1823 he started the *Medical Intelligencer*, the first weekly in this country. He held the position of editor and publisher of this journal for three years, and then sold it to Dr. Coffin. In 1828 the *Intelligencer* and the *New England Quarterly* were united to form the Boston Medical and Surgical Journal, of which Dr. Smith became editor in 1834. In 1854, having been elected mayor of Boston by the "know-nothing" party, he associated Dr. George S. Jones with himself in the management

of the JOURNAL. In February, 1855, Dr. Jones withdrew, and was succeeded by Drs. William W. Morland and Francis Minot, with Dr. Smith as nominal chief editor. In August, 1856, Dr. Smith severed all connection with the JOURNAL. At the time he first became editor, Mr. David Clapp, the well-known printer and publisher, succeeded Mr. John Cotton as publisher. Not long after, he started the *Medical World*, which had a short existence. As a young man he was professor of anatomy and physiology in the Berkshire school, and late in life professor of anatomy at the New York Medical College. He was port physician of Boston from 1826 to 1849. About the time his son commenced the practice of medicine he moved to New York, where he has since lived. Although a man of no great ability, he could turn his hand to almost anything. For instance, it is said of him that as a college boy he was the champion drummer of his class. Later in life he was alternately anatomist, historian, naturalist, politician, a writer of books of travel, sculptor, editor, and orator. He kept a whole set of the Encyclopædia Britannica on his office table, and nearly every page was said to have a book-mark in it. He was a successful modeler in clay, and Dr. John Reynolds possesses a bust of himself made by Dr. Smith. He also produced busts of several other prominent Bostonians. Although a busy and active man, his practice was never a large one, but he nevertheless acquired considerable property. During the war he went to New Orleans, where he accepted the position of acting inspector-general, with the rank of colonel, and he was the chairman of a commission appointed by Banks to consider the sanitary condition of the city. He has been, we understand, an invalid for several years, suffering from some affection of the urinary organs.

LUNACY REFORM.

MR. EDITOR, — In your issue of July 31st there appeared an article entitled Lunacy Reform, which greatly misrepresents the state of affairs in relation to asylum reform in New York, and which does incredible injustice to members of our profession here. Of course you have not the space to publish the petition referred to in your article, but I trust you will allow me to say a few words in reply.

The petition will soon be published in such form that it can be had by all who are interested in the welfare of insane patients, and then your readers can satisfy themselves that it contains no "malice," refers to no one person, but that it only aims at obtaining a searching inquiry *under oath* respecting the medical management of asylums. The document was drawn up by a regularly appointed committee of one of our most active medical societies (the New York Neurological Society), and was approved, section by section, by the society at a stated meeting. In connection with one phrase in your article it is not uninteresting to add that Dr. Hammond had nothing to do with the wording of the petition, and did not see or hear it until it was read at the society meeting.

The summons of the legislative committee to the signers to appear as witnesses was simply an impertinence. The petition is not a formal accusation, but it was drawn up in order that a committee might know what lines of inquiry to follow. We, the signers, were not witnesses, but taxpayers, who expressed a formal desire to have the mode of management of asylums investigated because the general repute of this management is bad. Many of the points involved in the discussion are of such a nature that no one outside of asylums can know about them, — in the legal sense of knowing.

The so-called inquiry made by Messrs. Goodwin and Goefel has been pronounced a farce by the gentlemen who did go to Albany. They restricted testimony to personal testimony, and excluded from their scrutiny (?) the worst asylums, namely, those under the control of cities and counties. They questioned (?) superintendents *privately* and without notice to us.

Again, your author, I hope unconsciously, confuses the issue greatly by his complaints of the half insane, etc. Our petition has nothing to do with these *popular* complaints against asylums; we are willing to allow our superintendents an unlimited *humanity*, but we don't believe in their knowledge of cerebral anatomy and physiology, or in their capacity to make a medical or surgical diagnosis.

Some of the signatures to the petition have been called in question in medical and non-medical journals. That, we all know, is true of most petitions. Some of our signers may have withdrawn their names, and others may have signed without due knowledge, yet it

remains as the absolute truth that no names were put on the petition by any kind of fraud. A perfectly sufficient proof of this lies in the composition of the committee which was charged with obtaining signatures. This committee was composed of Drs. T. A. McBride (chairman), E. C. Harwood, E. C. Seguin, W. A. Hammond, E. C. Spitzka, J. G. Kiernan, Landon C. Gray, and W. G. Morton. Who is your correspondent or informant who accuses one of these gentlemen of "fraud"?

About Professor Draper's name I can't speak with personal knowledge, but with reference to President Barnard's I can. He *did* sign the petition, and signed *my* copy after having it in his possession three days! His subsequent denial is a remarkable example of amnesia. Not long ago Dr. Barnard admitted to me that he had no objection to the petition further than as it assailed one person, a friend of his. Hence he wished his name withdrawn.

Lastly, I would say that I sought but few signatures, and the following are the names of nearly all I obtained: President Barnard, Prof. Willard Parker, Dr. E. R. Squibb, Prof. John T. Metcalfe, Prof. T. M. Markoe, Dr. Robert F. Weir, Dr. Andrew H. Smith, and Dr. Edward Seguin. Will you, Mr. Editor, or will any unprejudiced person, say that a petition put forth by an incorporated scientific medical society, and signed by such men (if *only* by these) should be treated with contempt and misrepresentation, and be made the object of an Albanian investigation farce for the protection of men whose medical ability is questioned? Yours very truly, E. C. Seguin.

New York, *August* 15, 1879.

[We sympathize heartily with attempts to better the condition of our insane asylums, and we have no doubt that New York asylums are open to improvement, but we deprecate the spirit which has crept into the present movement. — Ed.]

A NEW ADJUVANT IN THE TREATMENT OF WRITER'S PALSY.

BY JAMES J. PUTNAM, M. D.

In two cases of impaired writing power coming under this general head, which have lately been under my care, I have found that the use of the McKinnon or stylographic pen secured the patients a good deal of facility and comfort.

The muscles which preëminently tire in writing are, as is known, those of pen-prehension. It is often impossible, in spite of painful effort, to keep the point of an ordinary pen applied at the proper angle against the paper, and when it is sought to obviate the need of doing this by the substitution of a pencil the necessity of bearing on it with some force to make it write soon entails fatigue. In the use of the patent pen both these evils are done away with. If a highly colored and easily flowing ink is employed there is no temptation to exert pressure, and the pen may be allowed to roll freely between the fingers.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FOR THE WEEK ENDING AUGUST 22, 1879.

Forwood, W. H., major and surgeon, McPherson Barracks, Atlanta, Ga. Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 128, Department of the South, August 13, 1879.

Horton, S. M., major and surgeon. Granted leave of absence for two months. S. O. 42, Division of the Atlantic, August 12, 1879.

Girard, J. B., captain and assistant surgeon, Fort Davis, Texas. Granted leave of absence for one month on surgeon's certificate of disability, with permission to leave limits of the department. S. O. 168, Department of Texas, August 8, 1879.

Moffatt, P., captain and assistant surgeon, assigned to duty at the new post in the vicinity of Lake Chelan (W. T.), to which post he will proceed at the end of the current month. S. O. 96, Department of the Columbia, July 28, 1879.

Fitzgerald, J. A., captain and assistant surgeon. Died at Columbia, Pa., August 11, 1879.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 16, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Annual Death-Rate per 1000 during the Week.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Diarrhœal Diseases.	Diphtheria and Croup.	Scarlet Fever.	Pneumonia.
New York	1,085,000	503	24.17	41.15	26.84	2.39	1.79	3.58
Philadelphia	901,380	346	20.02	28.04	21.39	1.16	1.16	2.02
Brooklyn	564,400	216	19.95	31.48	23.61	5.09	.46	1.39
Chicago	—	223	—	43.50	28.25	5.83	4.04	1.34
St. Louis	—	171	—	33.92	21.05	1.75	1.75	—
Baltimore	365,000	141	20.14	29.08	16.31	.71	3.55	—
Boston	360,000	173	25.05	46.24	29.31	2.89	.58	4.05
Cincinnati	280,000	106	19.74	33.02	16.98	1.89	7.54	2.83
New Orleans	210,000	68	—	7.35	1.47	—	—	—
District of Columbia	160,000	89	29.00	28.60	16.85	—	1.12	4.50
Cleveland	—	56	—	46.43	30.36	5.36	3.57	1.79
Pittsburgh	—	67	—	50.75	23.88	13.43	2.99	4.48
Buffalo	—	—	—	—	—	—	—	—
Milwaukee	—	51	—	43.14	33.33	9.80	—	1.96
Providence	101,500	35	17.98	37.14	25.71	—	11.43	—
New Haven	60,000	29	25.20	17.24	10.34	—	—	3.45
Charleston	57,000	25	22.87	28.00	20.00	4.00	—	—
Nashville	27,000	13	25.11	30.77	23.08	—	—	—
Lowell	53,300	17	16.63	41.18	35.29	—	—	—
Worcester	52,500	12	11.92	33.33	33.33	—	—	—
Cambridge	50,000	22	22.95	31.82	31.82	—	—	—
Fall River	48,500	39	41.93	56.41	33.33	—	17.95	—
Lawrence	38,200	23	31.39	26.09	17.39	—	—	8.69
Lynn	34,000	12	18.41	41.67	25.00	8.33	—	8.33
Springfield	31,500	8	13.24	62.50	37.50	25.00	—	—
New Bedford	27,000	18	34.76	55.55	38.89	—	11.11	—
Salem	26,400	12	23.70	58.33	58.33	—	—	—
Somerville	23,350	11	24.56	18.18	18.18	—	—	9.09
Chelsea	20,800	10	25.07	20.00	—	10.00	—	—
Taunton	20,200	8	20.65	37.50	25.00	—	—	12.50
Holyoke	18,200	13	37.25	15.39	15.39	—	—	—
Gloucester	17,100	7	21.34	71.43	57.14	—	—	—
Newton	17,100	7	21.34	57.14	57.14	—	—	—
Haverhill	15,300	13	44.30	46.15	30.77	15.39	—	—
Newburyport	13,500	8	30.90	50.00	50.00	—	—	—
Fitchburg	12,500	14	58.39	64.29	42.86	—	—	—

Two thousand five hundred and fifty-six deaths were reported, showing a decrease of 190 from the previous week: 930 from the principal infectious diseases, 636 from diarrhœal diseases, 296 from consumption, 76 from diphtheria and croup, 59 from scarlet fever, 56 from pneumonia, 55 from typhoid fever, 40 from whooping-cough, 28 from bronchitis, 26 from malarial fevers, 15 from measles, 15 from cerebro-spinal meningitis, 11 from erysipelas, two from small-pox (New York). From *typhoid fever*, New York and St. Louis reported 12 deaths, Baltimore eight, Philadelphia five, District of Columbia three, Chicago, Cincinnati, and Fall River two, Boston, Cleveland, Pittsburgh, New Haven, Charleston, Nashville, Lowell, Lawrence, and Gloucester one. From *whooping-cough*, New York ten, Philadelphia six, Boston four, Brooklyn, St. Louis, and Cleveland three, Cincinnati, Pittsburgh, and Fitchburg two, Chicago, District of Columbia, New Haven, Lawrence, and Taunton one. From *malarial fevers*, New York 12, St. Louis and New Orleans four, Chicago three, Baltimore two, Charleston one. From *measles*, New York eight, Chicago and Pittsburgh three, Brooklyn one. From *cerebro-spinal meningitis*, Chicago three, New York, Baltimore, and Cincinnati two, Philadelphia, District of Columbia, Lynn, New Bedford, Chelsea, and Fitchburg one. From *erysipelas*, New York five, Philadelphia, Brooklyn, St. Louis, Boston, Cincinnati, and Pittsburgh one. The death-rate of whites in District of Columbia was 18.27; colored 44.6. Yellow fever was increasing in Memphis. The infectious diseases were much less fatal, due to a great decline in diarrhœal diseases; typhoid fever continues to increase; diphtheria, scarlet fever, and measles were more fatal than in the previous week, as was consumption also. In the nineteen cities of Massachusetts, with an estimated population of 879,450, there was a decline in diarrhœal diseases.

The first part of the week was hot, the latter three days cooler. The meteorological record for the week in Boston was as follows: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
Aug. 10	29.998	61	75	56	69	72	67	69	NW	E	S	13	10	4	F	F	C	—	—
" 11	30.082	64	75	54	76	61	58	65	NW	E	SE	4	12	4	C	C	C	—	—
" 12	30.122	70	79	59	78	72	87	79	W	E	S	1	9	6	C	F	C	—	—
" 13	29.998	73	87	63	79	41	70	63	SW	SW	W	9	18	12	C	F	F	—	—
" 14	29.777	73	85	66	84	50	71	68	SW	SW	W	12	20	10	F	F	C	—	—
" 15	30.086	62	71	61	71	61	71	67	N	E	S	16	10	5	F	F	O	—	—
" 16	30.068	56	61	53	88	93	100	93	E	SE	E	5	16	19	O	R	R	—	.48
Week.	30.019	66	85	53				72	SW			1423 miles.						15.16	.48

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

The mortality from yellow fever in Memphis continues to increase. One hundred and forty-two cases and forty-eight deaths were reported for the week ending August 23d; previously returned, 543 cases and 131 deaths. No recent cases are reported in New Orleans.

For the week ending July 26th, in 149 German cities and towns, with an estimated population of 7,615,565, the death-rate was 24.1 (previous week 25.1). Three thousand five hundred and twenty-six deaths were reported: diarrhœal diseases 536, consumption 436, acute diseases of the respiratory organs 282, diphtheria 89, scarlet fever 63, whooping-cough 54, typhoid fever 46, measles 36, puerperal fever 18, typhus fever two, small-pox none. The death-rates ranged from 8.4 in Metz to 36.1 in Chemnitz; Munich 30.8; Dresden 18.8; Berlin 32.2; Hamburg 23.9: Hanover 12.3; Cologne 20.1. In the same week, Vienna 24.3; Paris 22.6; Brussels, 20.7.

For the week ending August 2d, in the 20 English cities with an estimated population of 7,383,999, the death-rate was 18.3 (principal zymotic diseases 2.9) against 17.6 of the previous week. Two thousand five hundred and ninety deaths were reported: 188 from diseases of the respiratory organs, 112 from measles, 92 from scarlet fever, 86 from diarrhœa, 80 from whooping-cough, 28 from fever, 11 from diphtheria; the deaths from small-pox declined in London to 4 (in Dublin also to 4). Measles, whooping-cough, and diarrhœa were more fatal, scarlet fever less so, than in the previous week. The death-rates ranged from 11.9 in Portsmouth to 21.1 in Plymouth; London 19.4; Bristol 13.7; Birmingham 17.3; Liverpool 16.2. For the same week, Edinburgh 17, Glasgow 16, Dublin 23, Geneva 15.

THE GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Medical Library Rooms, 19 Boylston Place, on the first Thursday of September, at 10.30 o'clock, A. M. Paper by H. A. Martin, M. D., of Boston, upon Vesico-Vaginal Fistula as a Result of Instrumental Interference in Labor. Report upon a Case of Tumor of Vagina complicating Miscarriage, etc., by the same. Profession invited.

HENRY M. FIELD, M. D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — Reports to the St. Louis Medical Society on Yellow Fever. By W. Hutson Ford, A. M., M. D., etc. St. Louis: George O. Rumbold & Co. 1879.

Remarks on Ovariotomy, with Relation of Cases and Peculiarities in Treatment. By Nathan Bozeman, M. D., Surgeon to Woman's Hospital of the State of New York. (Reprint.) New York: William Wood & Co.

Ein Beitrag zur Biologie der Bakterien. Von Dr. med. Louis Waldstein aus New York. (Virchow's Archiv.)